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INVESTIGATION OF THE PROPERTIES  
OF GUMBRIN AS A DEHYDRATING CATALYST

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Submitted 20 Apr 1949

[A Digest]

Unsaturated hydrocarbons can be obtained by dehydrating alcohols over alu-  
minium oxide or kaolin catalysts. In the present investigation naturally occur-  
ring gumbrin has been tested in regard to its suitability as a catalyst in the  
dehydration of fermentation isoamyl alcohol.

Isopropyl ethylene of boiling point 24 degrees centigrade and crude methyl  
ethyl ethylene of boiling point 30-34 degrees centigrade were isolated from the  
reaction product with the yields of 5 percent and 38 percent, respectively, so  
that gumbrin appears to be effective by virtue of its aluminium oxide content.  
Granulated gumbrin in a layer 10 centimeters thick (in a glass tube 15 milli-  
meters in diameter) was used. One hundred grams of isoamyl alcohol of boiling  
point 130-131 degrees centigrade were passed through the catalyst-filled tube  
during 2 hours. The temperature was maintained at 380-400 degrees centigrade.  
The dehydration of isoamyl alcohol over aluminium oxide under identical condi-  
tions leads to a yield of 8-12 percent isopropyl ethylene.

This is a brief preliminary communication.

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